

REMARKS

Claims 6-18 are pending in the subject application. Applicants have amended the claims herein by canceling claims 6, 11, 12, 13, 14, and 18. Claims 7, 8, 9, 15, and 16 have been amended to incorporate the limitations of the respective canceled independent claim from which each claim depends in order to place such claims into independent form for appeal. Pending claims 10 and 17 have not been amended and remain pending. Thus, the remaining pending claims in the subject application are 7, 8, 9, 10, 15, 16, and 17. Entry of the amendments to claims 7, 8, 9, 15, and 16 is requested.

35 U.S.C. 102

The claims currently under rejection under 35 U.S.C. 102 have been withdrawn by cancellation.

35 U.S.C. 103(a)

Claims 7, 9-10 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Japanese reference ('208). It is unclear as to what reference is being applied. No known reference correlates with number "'208". Clarification is requested.

From the text of the Office Action it appears the Examiner is applying reference '121. Under this assumption, Applicants respond as follows. The Examiner concedes that the '121 reference does not show a bending device having curved mandrels at both ends of the engaging sections that are threaded onto a base rod but nonetheless concludes it would be obvious to do so without pointing to any specific language or teaching in the reference '121 toward that end. It is clear for a modification of the type the Examiner seeks to propose to the '121 reference, there must be some teaching or suggestion in the reference. To establish *prima facie* obviousness, there 1) must be some suggestion or motivation in the art to modify or combine the references; 2) must be a reasonable expectation of success and 3) the combined references must teach or suggest all the claim limitations. In rejecting claims under 35 USC § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993).

In the subject case, the '121 reference is admitted to be deficient by the Examiner in showing a mandrel having curved opposed ends connected to a center bar by a threaded

connection but has presented no teaching in the reference that supports its modification to the claimed invention. The Japanese reference can be used in its embodiment to create a curve in opposite ends of a hose but only by reversing the hose ends in a two step procedure. The deficiencies in such a method in cost and time are considerable. The Examiner acknowledges the advantage (achieved by the claimed invention) of shaping both ends of a hose at the same time. In doing so, the functional deficiencies in the '121 reference in not (emphasis added) providing such a capability cannot be denied. To then claim it would be obvious to eliminate such deficiencies by placing a second curved mandrel end to the '121 reference when the reference has no teaching to make such a modification is pure hindsight. In fact, solving a problem inherent in the '121 reference is strong evidence of the non-obvious nature of the invention.

Still further, the adjustment that the examiner is pointing to in the '121 reference is merely a linear adjustment along the base support; an adjustment not equivalent or comparable to level and degree of adjustment capable from the claimed invention. A screw threaded attachment of curved mandrel ends to a common center bar allows for a rotary angular alteration in the relative positions of the curved ends as well as for a linear adjustment to the separation distance therebetween. The sliding of one arm in the '121 reference toward the other only achieves an adjustment in the plane of the base member and in no way allows for the same three-dimensional adjustment achievable through the practice of the present invention. Thus, not only does the '121 reference teach a mandrel embodiment that is not capable of simultaneously curving opposite ends of a hose, resulting in a loss of time at a higher cost, but the '121 mandrel also cannot create an three-dimensional adjustment between opposite opposed curved mandrel ends as possible with the present invention. To conclude, as the Examiner proposes, that it would be obvious to modify the '121 to eliminate such deficiencies is erroneous and unsupported.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over the Japanese reference ('121) in view of Usui (4,080,141). Neither the reference '121 nor the Usui '141 reference teaches in combination a hollow tube located between the free ends of opposing mandrel legs, at least one of which having a curved portion. Moreover, neither reference carries any teaching that would lead one skilled in the art to make such a combination. The '121 reference teaches a base member that is not a hollow tube. In fact, a tube would facilitate a connection of vertical member 11 to the base member 1 and would, therefore,

render the '121 inoperable. The '141 reference pertains to a bending apparatus, not a mandrel and is, accordingly, directed to an entirely different objective and solution. Applicants repeat the position in the early Office Action response that the '141 is, accordingly, non-analogous. There is nothing in the teachings of the '141 reference that would lead one to substitute a hollow tube into a mandrel of the type disclosed in '121. Such a substitution, moreover, as set forth above, would defeat the linear adjustment capability of '121 along leg 1 and render the attachment of vertical leg 11 to leg 1 impossible.

The Examiner's remarks in response to arguments previously submitted by Applicants are noted. However, the Examiner's conclusion that it would be obvious to modify '121 in order to simultaneously accomplish a curved formation at both ends of a hose is totally unsupported by any teaching from the reference. That '121 recognizes that shaping both ends of a hose into a curvilinear form may be necessary or desired without providing the means for simultaneously doing so is strong evidence that the subject claimed mandrel is non-obvious. The mandrel of the invention satisfies a need and provides an advantage recognized by the cited art but not (emphasis added) met.

Applicants disagree with the Examiner's conclusions regarding the applicability of the '141 reference to the subject matter of the invention. Holding a pipe fixed at both ends so that the ends remain identical and unformed is opposite to the issues and problems with forming ends of a hose into a curvilinear shape, particularly forming ends into respective shapes. Utilizing a hollow tube between curved mandrel ends that reform ends of a hose (claim 1) is entirely dissimilar to holding end of a pipe fixed while using a hollow tube in between to reform a medial pipe portion. The limitations of claim 8 as amended are clearly opposite to the problem confronted and solved by the '141 apparatus.

In conclusion, the cited references do not contain any teaching that can be deemed to instruct one skilled in the art toward the combination and modification proposed by the Examiner. The invention as claimed results in a mandrel solving problems recognized but unmet by the cited '121 reference. Modifying the '121 reference to include a hollow tube is totally unsupported by the reference and would render the reference inoperable. For such

reasons, Applicants submit that the claimed invention is patentably distinct over the cited combination. Reconsideration and allowance of all pending claims is, accordingly, requested.

Respectfully submitted,



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